UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/443,712	11/19/1999	DAVID MICHAEL SPRAGUE	1322/8	7620

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ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)
Office Action Summary	09/443,712	SPRAGUE ET AL.
	Examiner	Art Unit	
	Saba Tsegaye	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 June 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,48-57 and 79-94* is/are pending in the application.

　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *83-88* is/are allowed.

6)☒ Claim(s) *1-10,48-57,79-82 and 89-94* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　a)☐ All b)☐ Some * c)☐ None of:

　　1.☐ Certified copies of the priority documents have been received.

　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/20/04*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____. -

DETAILED ACTION

Response to Amendment

1.   This Office Action is in response to the amendment filed 06/29/05. Claims 1-10, 48-57

and 79-94 are pending. Claims 83-88 are allowed. Claims 1-10, 48-57, 79-82 and 89-94 are

rejected.

Claim Objections

2.   Claim 92 is objected to because of the following informalities: claim 92 is identical with

claim 89. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3.   Claims 1-3, 5-7, 9, 10, 48-50, 52-54, 56, 57, 79-82 and 89-94 are rejected under 35

U.S.C. 103(a) as being unpatentable over Curry et al. (US 5,923,659) in view of Nolting et al.

(US 6,385,301).

         1, 2, 48, 49, 90 and 94, Curry et al. discloses a system and method for controlling two or

more telecommunications networks which are themselves capable of exercising a form of

common channel signaling network control. In Fig. 12, Curry et al. discloses the receiving of an

SS7 packet message at an STP from an SSP (receiving at a first STP a first SS7 user part

message). Inherently, if the SSP is sending an SS7 packet message to the STP over link, the link

itself must be a type of SS7 link (over an SS7 signaling link). When the STP recognizes that a

foreign prefix exists, it directs the packet, according to the **translation table stored within the**

STP (a first STP configured to perform global title translation) (column 15, lines 47-67; column

21, lines 19-21), to the Internet Module, where the Module performs the necessary address

determination and adds the appropriate addressing and instructional overhead to encapsulate the

packet in one or more TCP/IP packets, and transmits the packet over the Internet (encapsulating

the SS7 user part message in a first IP packet; transmitting the IP packet to a node over an IP

network; IP packet includes adding a TCP header). See Fig. 12, and col. 21, lines 12-50. Curry et

al. does not expressly disclose performing the encapsulation of an SS7 packet and the

transmitting of the newly encapsulated packet at the signal transfer point. However, it would

have been obvious to a person of ordinary skill in the art at the time of the invention to combine

the functions of the Internet Module with the functions of the signal transfer point. One would

have been motivated to do this because it would streamline the setup, thus making the system

more compact and reducing the number of components needed to make the system.

Further, Curry et al. discloses that the SS7 network layer (L3) routes messages from

source to destination. The lower three layers of the SS7 protocol, the network layer, the signaling

link layer and the data link layer, form the MTP of SS7. The MTP is common to messages for all

applications and provides reliable transfer of signaling messages between network nodes.

Furthermore, Curry discloses that at the OSI network layer (L3), the SS7 protocol stack includes

a signaling connection control part **(SCCP)** as well as the **network layer portion of the MTP**.

SCCP provides communication between signaling nodes by adding circuit and routing

information to SS7 message (column 14, lines 21-61). However, Curry et al. does not expressly

disclose configuring to perform SS7 message transfer part layer 3 routing at the signal transfer

point (STP) and the STP includes global title translation functionality.

Nolting et al. teaches that the MTP processing of the STP routes SS7 packets based on

point codes (column 12, lines 18-31).

It would have been obvious to a person of ordinary skill in the art at the time of the

invention to add a function that perform SS7 message transfer part layer 3 routing, such as

suggested by Nolting et al., to the STP of Curry et al. in order to determines how data transferred

between nodes at the signal transfer point. The motivation is to obtain a reliable transfer of

signaling messages between network nodes. The MTP relays messages between applications

running at different nodes of the network, effectively like a datagram type service (see Curry,

column 14, lines 28-33).

Further, Nolting teaches that the SCCP protocol layer processing in the STP **translates**

the global title into a destination point code and inserts the destination point code into the SS7

packet (column 12, lines 18-31).

It would have been obvious to a person of ordinary skill in the art at the time of the

invention to modify Curry's SSP to include global tile translation functionality, as taught by

Nolting. The motivation is to determine the specific destination address location of a message-

processing platform.

4.   Regarding claims 3 and 50, Curry et al. does not expressly disclose adding a UDP header

on the SS7 user part message, but it would have been obvious to do this. One would have been

motivated to do this because Curry et al. discloses adding a TCP header, and UDP and TCP are

very similar protocols and both work on the same layer-having the capabilities to add TCP would

have also allowed UDP to be added.

5.   Regarding claims 5 and 52, Curry et al. does not mention termination user part layer

communications (transmitting the first IP packet without terminating user part layer

Communications).

6.   Regarding claims 10 and 57, Curry et al. describes sending the packet over foreign lands,

so this would indicate that the message is being transmitted to and from different local areas, and

therefore, classify as an E link between the first STP and the SSP.

7.   Regarding claims 6 and 53, the connection between the STP 118 and the SSP 142 in Fig.

12 can be considered equivalent to "A link" because it connects an STP with an signaling

endpoint. Just as it was obvious to combine the Internet Module into the STP, similar reasoning

also applies to putting the Internet Module into the SSP in order to complete the connection.

8.   Regarding claims 7, 9, 54 and 56, the connection between the STP 118 and the STP 148

can be considered equivalent to a "B link" or a "D link" because it connects one STP to another

STP. Thus, the IP network replaces the B link or the D link. In the art, it difference between a D

link and a B link is very arbitrary and are often the same type of link.

9.   Regarding claims 79 and 8 1, Curry et al. discloses using ISDN user part messages as part

of the call control application protocol of SS7 (SS7 user part messages comprises an ISDN user

part message). See col. 14, lines 6-20.

10.   Regarding claims 80 and 82, the first signal transfer point naturally intercepts calls

directed to a second signal transfer point simply by being in the connection process-all calls

directed to the second signal point located over the Internet must go through the first signal

transfer point at some point in the process (intercepting a SS7 message). As mentioned

previously, the Internet module performs the necessary address determination and adds the

appropriate addressing and overhead to encapsulate the packet in TCP/IP packets (inserting a

destination IP address corresponding to the second signal transfer point). At the second signal

point, there is an end office for receiving the call sent over the Internet (second signal point

comprises an end office for a call associated with the first SS7 message).

11.   Regarding claims 89 and 92, Curry discloses the method wherein the first SS7 user part

message comprises an ISDN user part (ISUP) initial address message (column 14, lines 6-20).

12.   Regarding claims 91 and 94, Curry discloses the method wherein encapsulating the first

SS7 user part message in the first IP packet includes retaining SS7 routing information in the

first SS7 user part message (column 21, lines 33-50).

13.   Claims 4 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et

al. in view of Nolting et al as applied to claims 1 and 48 above, and further in view of Schrodi et

al. (US 5, 173,897).

        Curry in view of Nolting does not expressly disclose including an application-level

sequence number to the SS7 user part message. Schrodi discloses adding a sequence number to

ATM cells in transmission. See col. 1, lines 34-47. It would have been obvious to a person of

ordinary skill in the art at the time of the invention to use the teachings from Schrodi of adding

sequence numbers to packets in the SS7 packets disclosed by Curry in view of Nolting. One of

ordinary skill in the art would have been motivated to do this because adding sequence numbers

allows the receiver to know if a packet fails to transmit, or if the packets get transmitted out of

sequence.

14.   Claims 8 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et

al. in view of Nolting et al. as applied to claims 1 and 48 above, and further in view of the

Admitted Prior Art (Figs. 1-7).

        Curry in view of Nolting discloses all the claim limitation as stated above. Further, Curry

shows, in Figs. 12 and 15, a link between the SSP 110 and the STP 118, and a link between the

SSP 146 and the STP 148; and a link between the STP (118 130), and the STP (148 140) through

the Internet 136 (Bridge link B). Curry in view of Nolting does not expressly disclose: the first

and second STPs comprising a mated pair of STPS, and the IP network thereby functions as an

SS7 C link. However, They are always deployed in pairs, to maintain redundancy in the network.

Diagonal links D are used to connect mated STP pairs at a primary hierarchical level to another

STP mated pair at a secondary hierarchical level. Extended links E are used to connect to remote

STP pairs from an SSP. Extended links are the alternate rout for SS7 messages in the event that

congestion should occur within the home STP pairs.

        It would have been obvious to a person of ordinary skill in the art at the time of the

invention was made to add a method that be able to send an IP packets over C link, such as that

suggested by the Admitted Prior Art, in the method (that already is able to send the IP packets

over E link) of Curry in view of Nolting. Doing so would provide a telephone service over wide

areas between different telephone system and carriers (Curry, column 9, lines 38-64). IP network

thereby functions as and SS7 D link between the first and second STPs.

Allowable Subject Matter

15.   Claims 83-88 are allowed.

Response to Arguments

16.   Applicant's arguments with respect to claims 1-10, 48-57 and 79-88, have been

considered but are moot in view of the new ground(s) of rejection.

17.   Applicant's arguments filed 06/29/05 have been fully considered but they are not

persuasive.

        In response to Applicant's argument (Remarks, page 15) that Curry fails to teach or

suggest a method or a an SS7/IP user part message communicator that performs MTP level 3

routing, global title translation, and encapsulation of and SS7 user part message in an IP

datagram. The Examiner respectfully disagrees. As mentioned in the rejection, the SSP is

sending an SS7 packet message to the STP over link; the link itself must be a type of SS7 link

(over an SS7 signaling link). When the STP recognizes that a foreign prefix exists, it directs the

packet, according to the **translation table stored within the STP** to the Internet Module, where

the Module performs the necessary address determination and adds the appropriate addressing

and instructional overhead to encapsulate the packet in one or more TCP/IP packets, and

transmits the packet over the Internet. Furthermore, Curry discloses that at the OSI network layer

(L3), the SS7 protocol stack includes a signaling connection control part **(SCCP)** as well as the

network layer portion of the MTP.

In response to Applicant's argument (Remarks, page 14) that Curry does not teach an

STP that performs global title translation and MTP level 3 routing. It is respectfully submitted

that the rejection is based on the combined teaching of the Curry reference and the Nolting

reference, and that the Nolting reference, as mentioned in the rejection above does teaches this

feature.

In response to the Applicant's argument that the commercial success of an SS7 IP

gateway product is an applicable secondary consideration with regard to any rejection of the

claims as obvious under 35 U.S.C. 103, Examiner respectfully disagrees. Applicant's evidence of

sales of the product without other economic evidence is insufficient to establish a nexus between

the product and commercial success. Examiner contends that many other factors could have

contributed to sales of the product, such as aggressive advertising, effective sales people, low-cut

pricing, or even another feature in those products that was more important than the claimed

invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The

examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST
September 19, 2005

**JOHN PEZZLO
PRIMARY EXAMINER**